USER'S MANUAL

CRT1081IRD
Compact Size 8-channel Integrated Receiver Decoder

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2 GENERAL INFORMATION

2.1 Description

CRT1081IRD is a compact size 8-channel integrated receiver decoder. It combines 8 full featured DVB-S receivers with Common Interface for descrambling services and ASI output interfaces, all in one 1U case. Such a compact and high integrated solution lets you build your network central station with an exceptional efficiency. WEB control interface lets you to control all the system no matter where you are at the moment. Industry standard DVB-ASI output interface makes it easy to serve Digital Video/Audio programs to DVB multiplexers, IPTV streamers etc.   .

2.2 Packaging Contents

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2.3 Technical Specifications

DVB-S receiver

Number of channels	8
Receiving frequency range	950-2150 MHz
Input signal level	-65~-25 dBm
Nominal RF input impedance	75 Ohm
Connector type	IEC, F-type
SR	1-45 MBaud
FEC	1/2, 2/3, 3/4, 5/6, 7/8

Common Interface

Number of channels	8
Specification	EN50221, ETSI TS 101699

DVB-ASI Output

Number of channels	8
Specification	EN 50083-9
Output impedance	75 Ohm
Connector type	IEC 169-8, BNC-type
Operation modes	Packet, 188 byte
Maximum output bit rate	213 Mbps
Control software	WEB Server
Device control	100Mbps Ethernet, TCP/IP
Power supply	90 – 260V (50/60 Hz)
Power consumption	60W

Operating Environmental Conditions

Nominal temperature	10 ~ 30 ºC
Max. relative humidity	80%

Mechanical Featchers

Width	485 mm
Depth	406 mm
Height	44 mm
Weight	5.5 kg

3   SAFETY GUIDELINES

3.1 General Safety Guidelines

Use the following guidelines when unsafe conditions exist or when potentially hazardous voltages are present:

- Always use caution and common sense.
- To reduce the risk of electrical shock, do not operate equipment with the cover removed.
- Repairs must be performed by qualified service personnel only.
- Remember that voltages higher then 60 V DC or 30 V AC rms are dangerous.

3.2 Device Safe Operation Guidelines

- Use only specified power supply and signals.
- Have device power off when doing connections.
- Proper cable types must be used.
- Use the device under the specified environmental conditions.
- Do not obstruct the ventilation system.

4 INSTALLATION AND SETUP
4.1 Phisical Description
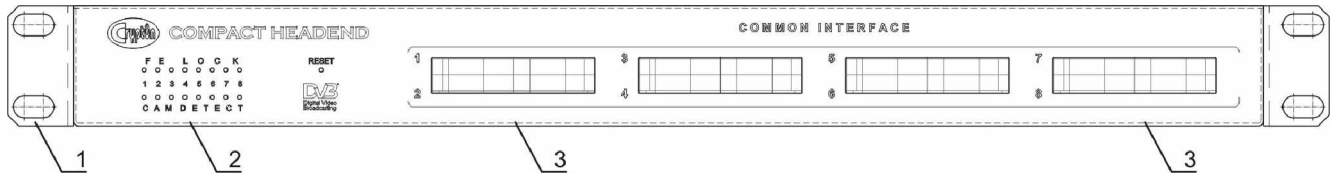
4.1.1 Front View

Fig. 1 Front view

1. Front panel with mounting holes. Mounting holes are only used to prevent device horisontal move. Use special rack unit supports for vertical fixation.
2. Tuner Lock and CAM Module insertion indicators. A module proper operation is signaled with smooth light of the LED.
3. Common Interface slots for CAM Modules. To prevent damage of the interface only use EN50221 specified CAM Modules, isert them gently into the slots.
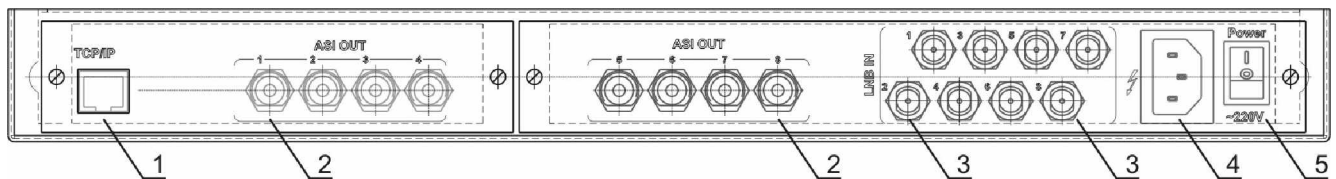
4.1.2 Rear View

Fig. 2 Rear view

1. Ethernet port for device control via TCP/IP. A cross cord is used for direct PC connection and patch for network connection via Ethernet switch.
2. 8 DVB-ASI outputs. For reliable interface operation use RF cables and BNC connectors capable to operate at frequencies 270MHz and higher.
3. 8 DVB-S receiver inputs. Satellite IF (950-2150MHz) signal can be applied to the inputs direct from LNB or via splitters. Up to 150mA 13/18V LNB power can be supplied simultaneously with every of the inputs.
4. Power socket. Only specified voltage should be used. Pay a special attention to use power cords and plugs with a ground wire. The chassis is grounded through the three prong AC receptacle.
5. Power switch;

4.2 Hardware Installation

The following sequence of operatins is recommended.

§ Unpack the device and check that all components are safe. If the device was taken to the installation room from a colder place wait at least one hour until condensed damp is dry.

§ Put the device at the place of operation and fix it properly. Special telecom rack is the best choice for multiple devices istallation.

§ Provide necessary connections of LNB inputs and ASI outputs.

§ Connect the device Ethernet port to the same type port of the host PC with cross cord or use patch cord when Ethernet switch is used.

§ Connect the power supply cord to an AC outlet. Only specified voltage should be used. Pay a special attention to use power cords and plugs with a ground wire. The chassis is grounded through the three prong AC receptacle.

§ Incert CAM Modules into Common Interface slots. To prevent damage of the interface only use EN50221 specified CAM Modules, push them gently no exceeding effort is reqired.

§ Switch the device power on. Short period LEDs light signals device ready to operate.

4.3 Hardware Setup

4.3.1 Deafault Network Settings

The following default network settings are usually appear when fist time device power on. Please check that your Host PC network settings match to that default settings to make the the device connection.

MAC address	00:01:00:15:xx:xx
IP address	192.168.0.100
Subnet Mask	255.255.255.0
Gateway IP addres	0.0.0.0
Password	1

Note. Please see your device MAC address information attached to the accompanying documentation.

4.3.2 Reset Deafault Network Settings

You can reset the device network setting to the default any time you need. Only carefully press RESET button on the front panel. Restart the system to new settings take effect.

4.3.3 Setting the device network configuration

- Set the device MAC address as in the accompanying documentation.
- Asign the device IP address according to your LAN requirements. If you use multiple devices in your LAN make sure all of them have different IP addresses.
- Specify proper Subnet Mask for the LAN segment.
- Gateway IP address is required to access the device via Internet.
- Set the password to logging in to the Web interface.

4.3.4 Site Requirements

- An IP address that identifies the CRT1081IRD unit's Ethernet interface on the LAN, and the Subnet Mask for the LAN segment.
- A 10BaseT or 100BaseT network connection.
- A grounded AC power outlet.
- A PC or other workstation with a web browser connected to the network to access the Web Interface to configure the unit for operation. It is recomended to use the following list of current or later Browser versions:

  - Google Chrome 3.0
  - Firefox 3.5
  - Opera 10
  - Internet Explorer 8.0

5 CONFIGURATION AND MANAGEMENT USING THE WEB INTERFACE

5.1 Logging in to the WEB Interface

To log in to the CRT1081IRD configuration web page:

1. From your web browser, type the IP Address for the CRT1081IRD into the address field and press Enter.

The browser will display the Login page for the configuration Web Interface.

2. Type the Password and click Login (or press Enter).

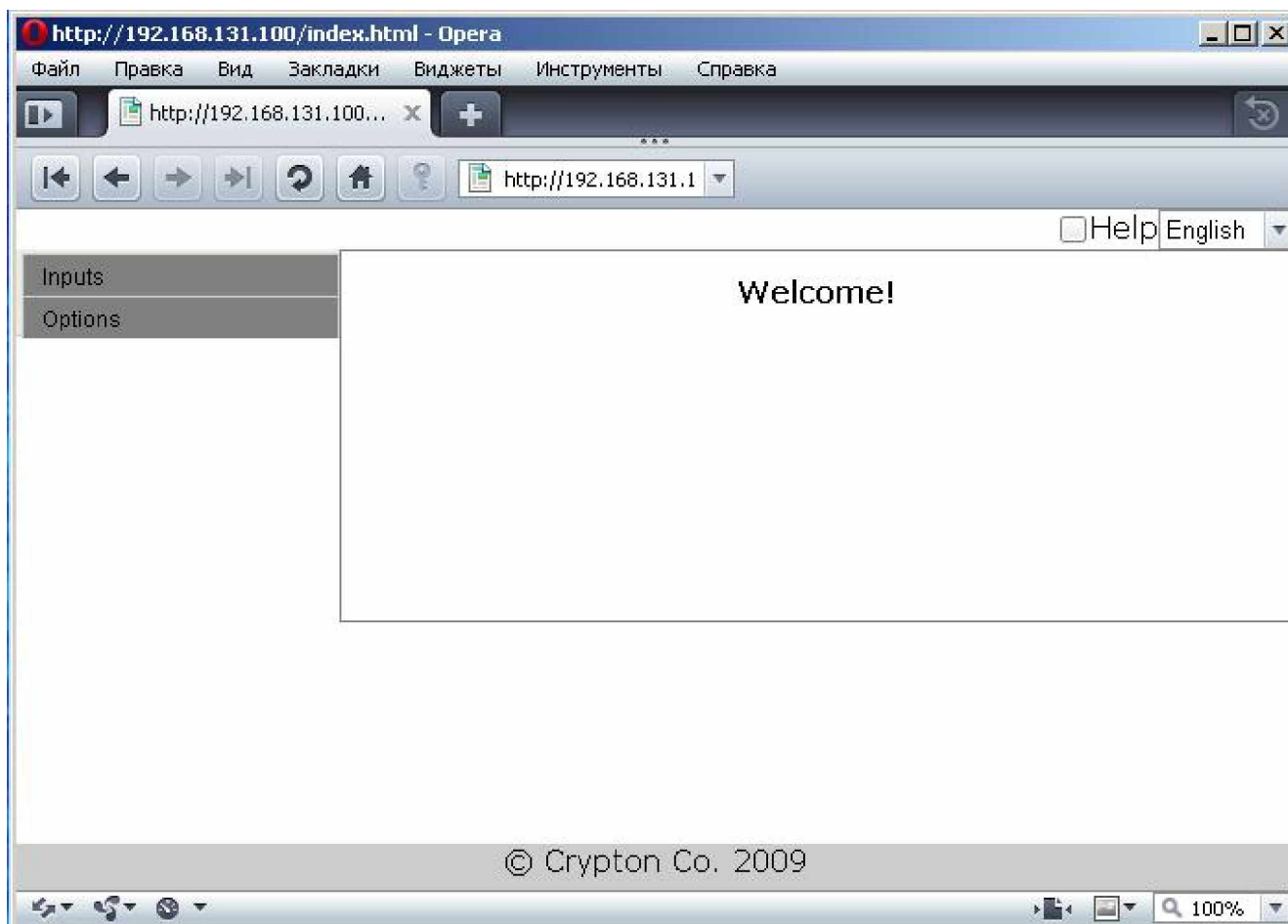The CRT1081IRD provides the following default password for the Web Interface:

Password: 1

You can change password value on Settings => Authentication

Note. After 15 minutes inactivity you have to repeat authentication process again.

5.2 Main Page

After Logging process is successful CRT1081IRD Main page opens, as shown in the following example.

You can switch Context Help On/Off and select language to set convenient invironment. "Receivers" and "Settings" menu items let you opent proper configuration pages.

5.3 Recievrs Page

Each of receiver inputs have both Tuner and CAM configuration windows.

5.3.1 Tuner Configuration and Monitor
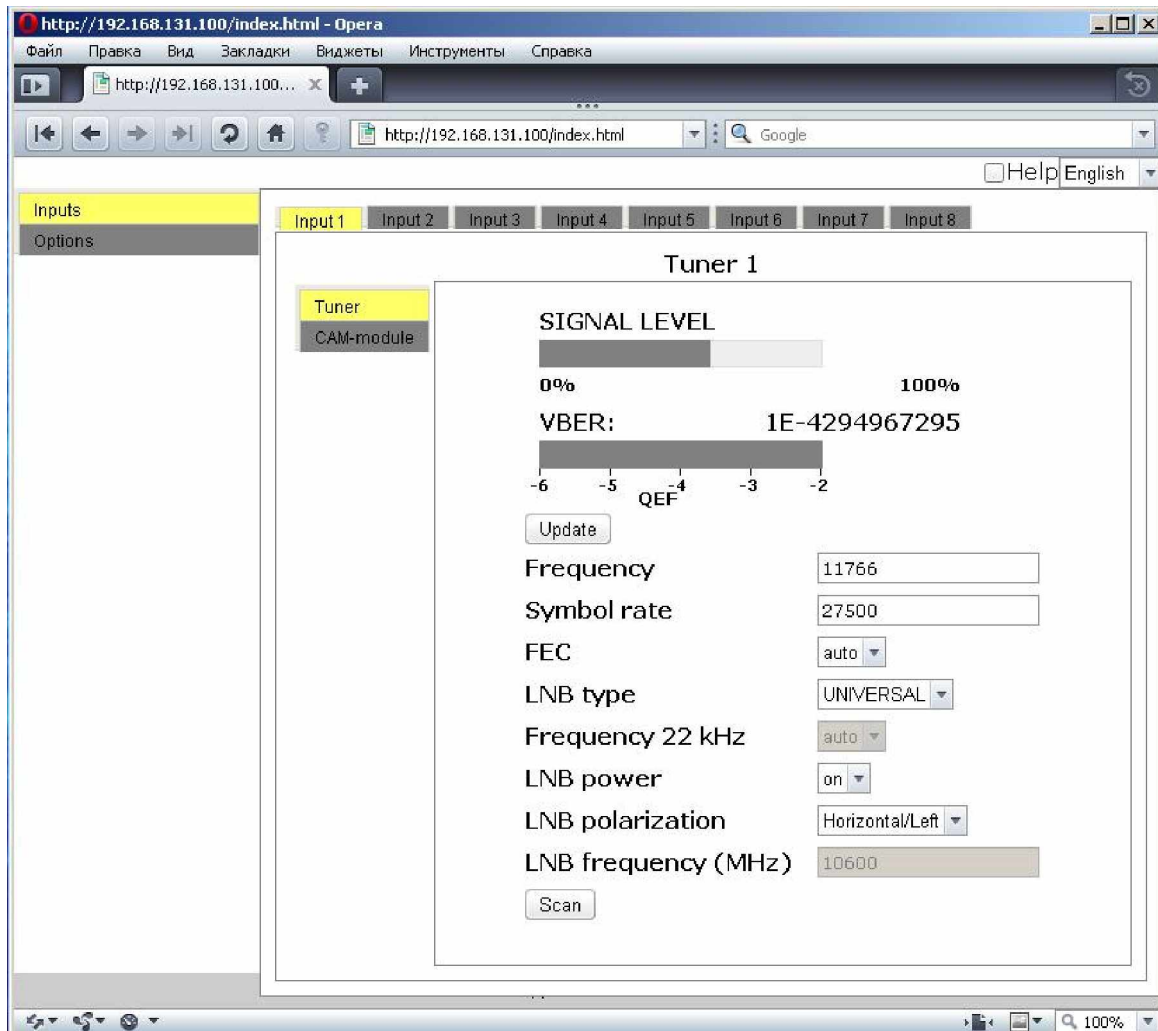
SIGNAL LEVEL – shows relative signal power from LNB.
VBER – shows current signal quality. Left from the QEF is enough for reliable receive quality.
Press "Udate" every time you want to see current signal quality.

Frequency – transponder frequency.
Symbol rate – transmition symbol rate.
FEC – Forward Error Correction mode.
LNB type – type of the LNB connected to the input.
22kHz – tone signal for LNB Local Oscilator control.
LNB power – if on up to 150mA 13/18 V power supplys to LNB.
LNB polarization – switching 13/18V selects LNB polarization mode.
LNB frequency – you can manually select LNB LO frequency.

Press "Scan" after receiving configuration is done. You have successful reception if VBER is better then 2E-4 that means quazi error free signal quality.

5.3.2 CAM Module Descrambling Settings

When reception quality is good list of all scaned programs can be seen on CAM page.
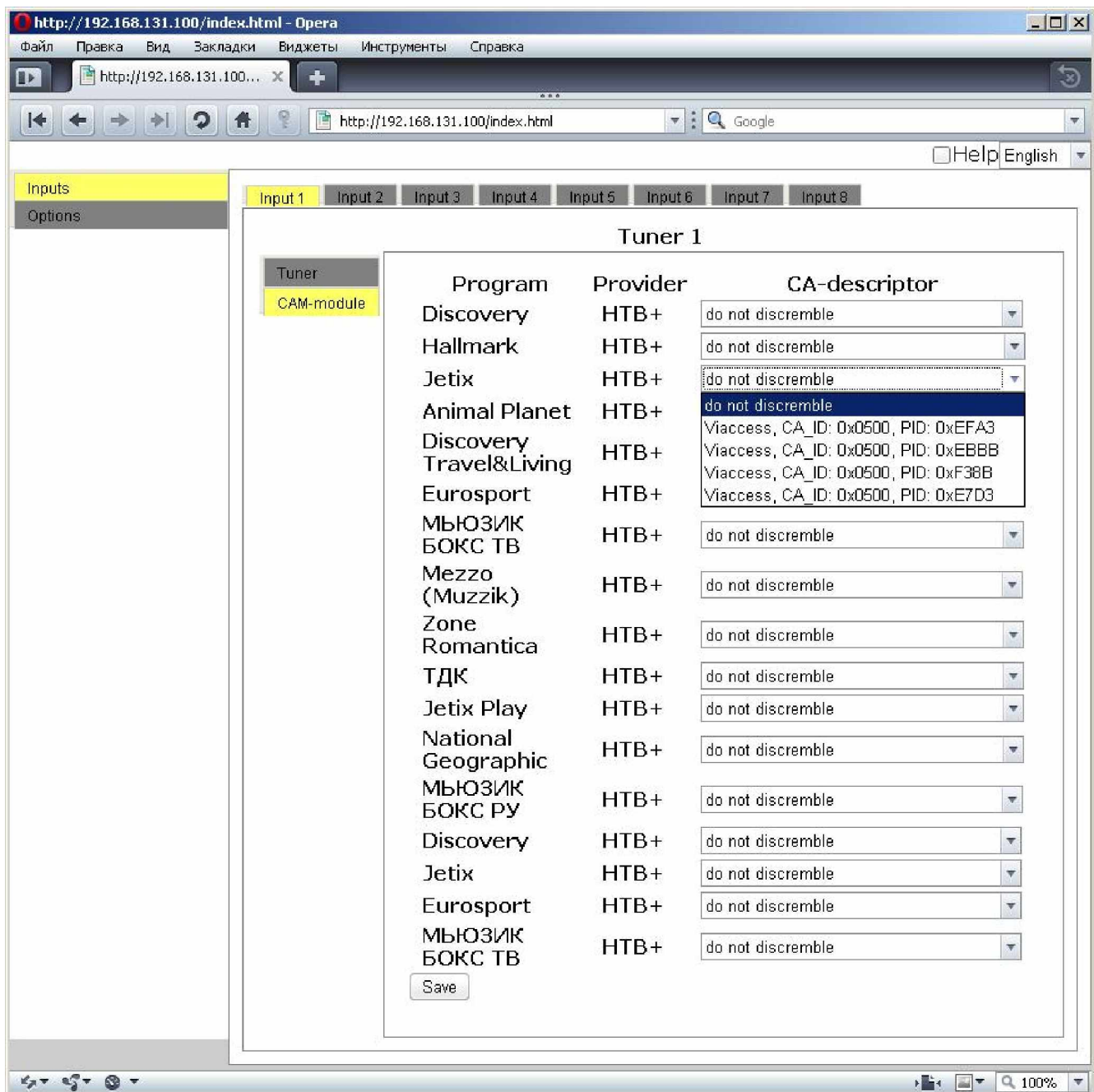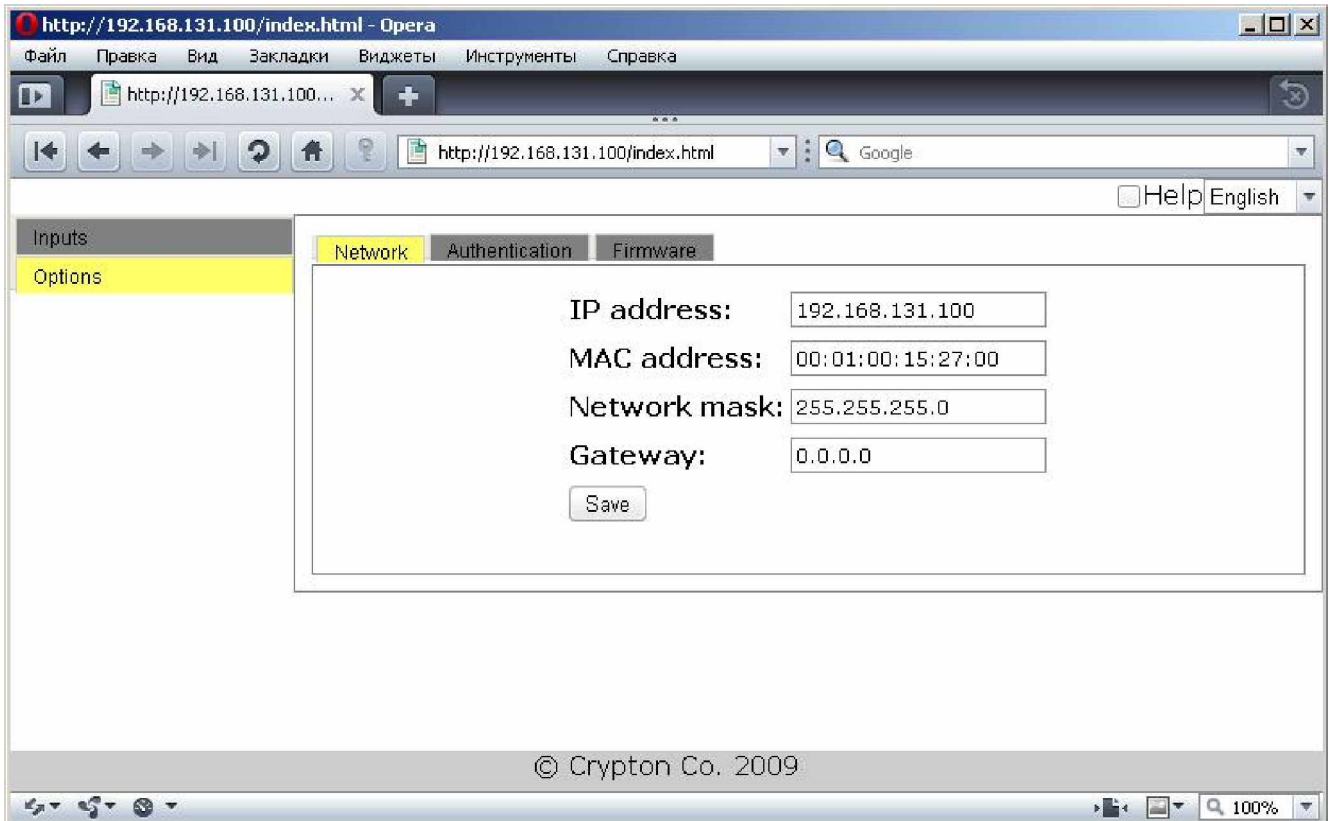

For scrambled programs all their CA_Descriptors listed against the program name. To configure CAM Module for descrambling a program select proper descriptor from the list. If you don't know exactly your CAM descrambling capabilities try all possible descriptors to open the program. Press "Save" to start descrambling.

Note. Multiple programs descrambling is supported with CRT1081IRD CI interface. Only CAM Modules supporting that mode can be used to open several programs.

5.4 Settings Page

On "Settings" page CRT1081IRD sytem configuration can be made.

5.4.1 Network Settings

IP address – set required for you LAN device IP address. Make sure all devices have different IP addresses.
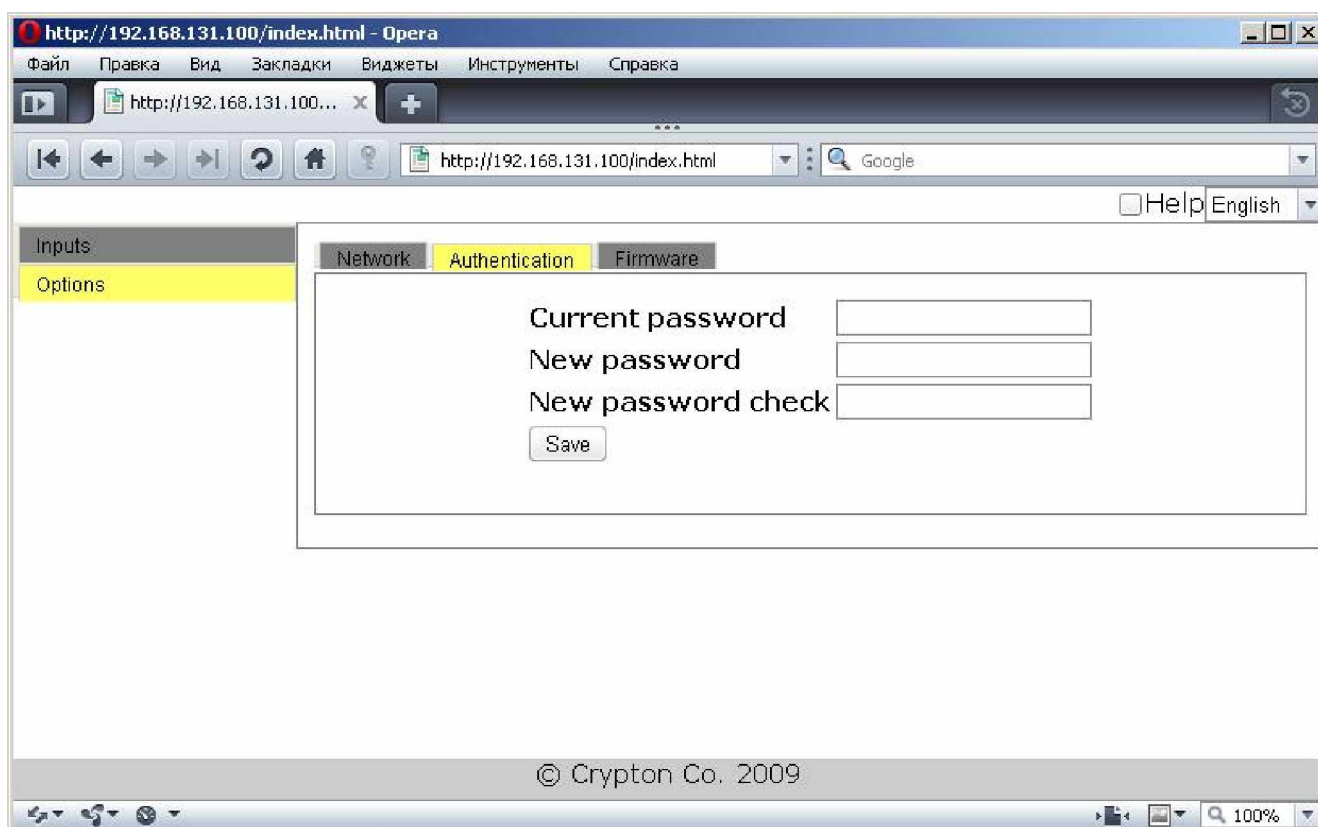MAC address – only Set the device MAC address as in the accompanying documentation.
Subnet Mask - specify proper Subnet Mask for the LAN segment.
Gateway IP address - is required to access the device via Internet.

Press " Save" to store new setting. System restart is required to new setting take effect.

5.4.2 Password Setting

On "Password" page you can change logging password.
Press "Save" to store new password settings.

5.4.3 Firmware Upgrade

You can start firmware upgrade process on Firmware page. Current Fimwareware version and device serial number information can be get on that page too.
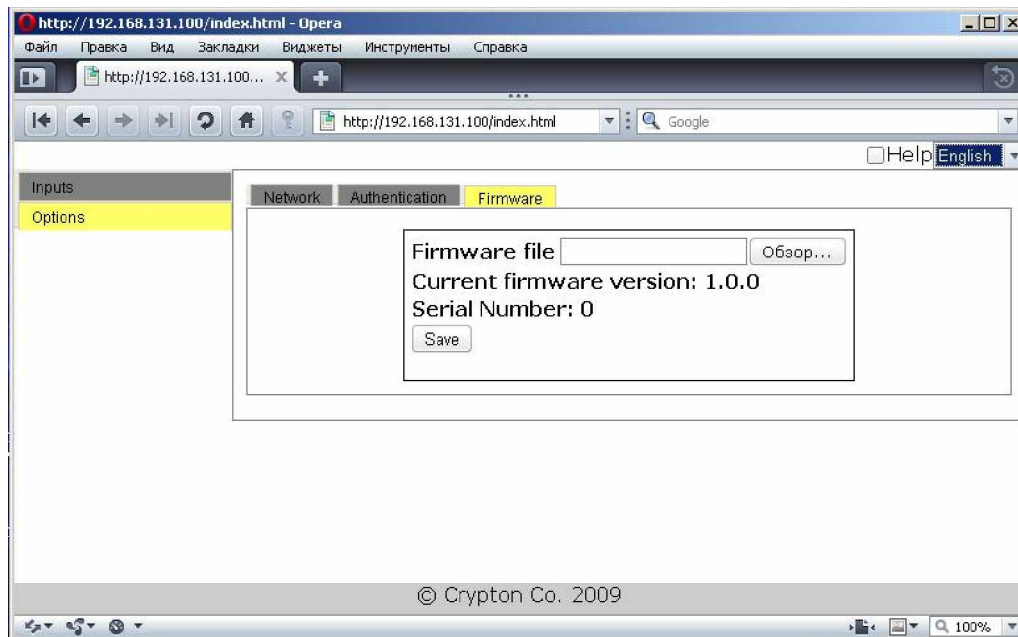
To upgrade your device currend firmware version press "Browse" to set FW upgrade file path. Press "Save" to start the process.
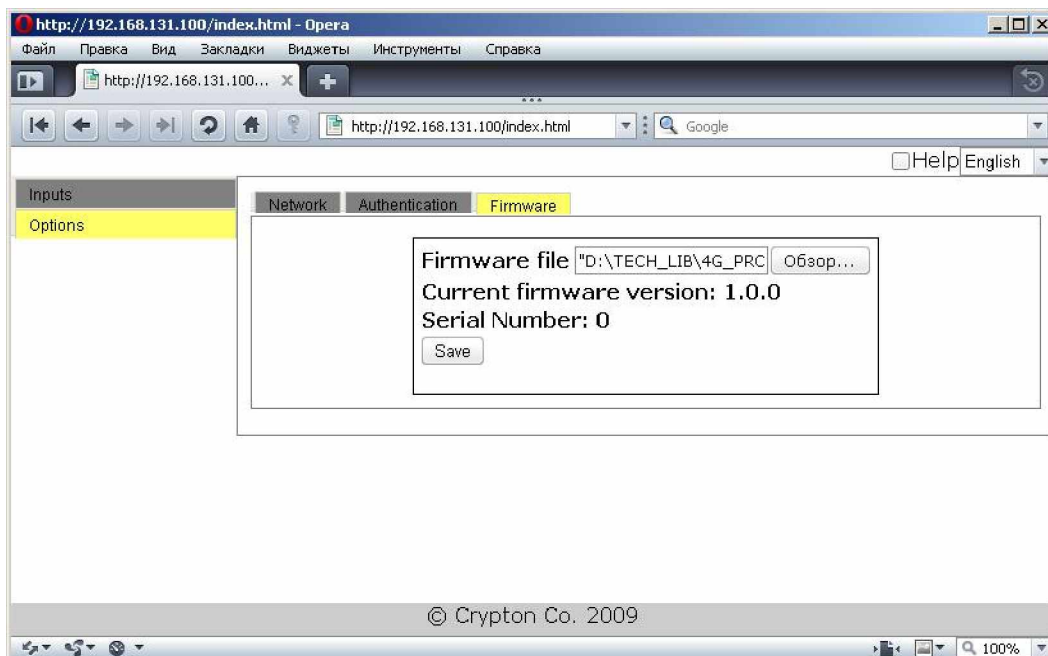
New Firmware version information appears. Select if you want to start upgrade or cancel process.

Caution. Don't switch off the device power when firmware upgrade is in progress. such an interruption can couse system damage.